

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 1 (Previously Presented): A semiconductor device comprising:

a semiconductor substrate of a first conductivity type, the semiconductor substrate having a surface;

a gate oxide film formed on the surface of the semiconductor substrate;

a gate electrode formed on the gate oxide film;

a source and a drain both of a second conductivity type, formed on the surface of the semiconductor substrate, the source and the drain having a first depth from the surface of the semiconductor substrate;

a source side impurity layer of the first conductivity type formed so as to extend from inside the source at a second depth that is shallower than the first depth, to directly underneath the gate electrode at a third depth that is equal to or deeper than the first depth; and

a drain side impurity layer of the first conductivity type formed so as to extend from inside the drain at the second depth to directly underneath the gate electrode at the third depth.

Claim 2 (Canceled)

Claim 3 (Previously Presented): A semiconductor device according to claim 1, wherein the source and the drain have a LDD region formed in a vicinity directly underneath sides of the gate electrode, respectively, and the source side impurity layer and the drain side impurity layer are formed in respective portions of the semiconductor substrate, directly underneath the LDD regions.

Claim 4 (Previously Presented): A process of fabricating a semiconductor device comprising:

- forming a semiconductor substrate of a first conductivity type, the semiconductor substrate having a surface;

- forming a gate oxide film and a gate electrode on the surface of the semiconductor substrate;

- forming a sidewall on both sides of the gate electrode;

- forming a surface covering film on exposed portions of the surface of the semiconductor substrate;

- forming a source and a drain beneath the surface covering film by introducing a dopant of a second conductivity type into the semiconductor substrate through the surface covering film, wherein the source and the drain have a first depth from the surface of the semiconductor substrate;

removing the sidewalls so as to expose the surface of the semiconductor substrate near the gate electrode; and

forming a source side impurity layer and a drain side impurity layer by introducing a dopant of the first conductivity type into the semiconductor substrate through the surface covering film and into the exposed surface of the semiconductor substrate near the gate electrode,

wherein the source side impurity layer extends from inside the source at a second depth that is shallower than the first depth, to directly underneath the gate electrode at a third depth that is equal to or deeper than the first depth, and

wherein the drain side impurity layer extends from the drain at the second depth to directly underneath the gate electrode at the third depth.

Claim 5 (Previously Presented): A process of fabricating a semiconductor device according to claim 4, further comprising forming LDD regions of the second conductivity type, in a vicinity of the gate electrode, and in respective regions directly above the source side impurity layer and the drain side impurity layer.

Claim 6 (Previously Presented): A process of fabricating a semiconductor device according to claim 5, further comprising forming second sidewalls covering both sides of the gate oxide film and the gate electrode, respectively, on top of the LDD regions.

Claim 7 (Canceled)

Claim 8 (Previously Presented): A process of fabricating a semiconductor device according to claim 4, wherein said forming a source side impurity layer and a drain side impurity layer is conducted by an oblique ion implantation, so that the source side impurity layer and the drain side impurity layer extend up to regions directly underneath the gate electrode, respectively.

Claim 9 (Original): A process of fabricating a semiconductor device according to claim 4, wherein the surface covering film is formed by oxidizing the surface of the semiconductor substrate.

Claim 10 (Previously Presented): A process of fabricating a semiconductor device according to claim 8, wherein an angle of the oblique ion implantation is in a range of about 30 to 40 degrees.

Claims 11-19 (Canceled)